

The Effects of Office Workspace Characteristics on Employee Productivity and Satisfaction

An Honors Thesis (HONRS 499)

by

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Abstract

Due to several changes and trends in the business world, a need has been created for the restructuring of the office workplace. Studies have revealed that changes in office design can improve productivity, employee satisfaction, and can attract potential employees and clients. This discussion attempts to reveal how workspace characteristics such as privacy, number of enclosures, and accessibility affect employee productivity and satisfaction. The well known office design controversy is discussed: enclosed office versus open office system. This paper advocates the use of an open office plan with sufficient enclosures around individual workstations. By implementing various changes to create a balance between privacy and accessibility with the use of partitions, office design can become an asset to any corporation.

Introduction

Importance

Trends and changes occurring in today's workplace have created a need to take a closer look at various workspace characteristics and how they affect productivity and employee satisfaction. Workspace characteristics such as employee privacy levels, number of enclosures, and accessibility issues directly impact a company's performance and worker satisfaction. This past decade has seen a wide range of changes in the office workspace that will forever impact the way these office characteristics are viewed.

In the past, issues such as productivity and workspace characteristics were considered to be relevant to factories and plants rather than office spaces. Productivity can be easily measured in a production facility. If a product is put together at a faster rate with the same level of quality than previously put together, then productivity has increased. If the opposite occurs, productivity decreases. Expenses can also be easily monitored in this setting. Workspace characteristics in factories received focus mainly for safety reasons. Employee safety concerns such as exposure to hazardous materials, exposure to extreme temperatures, and workplace injuries rather than employee satisfaction have made workspace characteristics important .

Although productivity and workspace characteristics received attention in the blue-collar world, productivity was not a word that could be applied to the office. Until this decade, white-collar businesses or divisions of businesses were concerned only with the amount of revenue brought in by the company (Becker & Steele, 1995). As long as the company was bringing in sufficient revenue to cover expenses, the amount of actual money spent on expenses was irrelevant. Since office expenses were not a concern of most businesses, improving employee productivity was not a primary goal. Office productivity is much more difficult to monitor than factory productivity, anyway. Workspace characteristics received only minimal attention due to fewer perceived risks such as illness and injury.

Focus is beginning to shift from factory environments to office environments for a couple of reasons. The primary output of work completed in the United States is no longer accounted

for by factory work. Instead, the office carries a larger load of work than production facilities (Shumake, 1992). There are now more employees working in white-collar jobs than in blue-collar jobs. Many businesses consist of all office work rather than consisting primarily of production work with a small office division. Companies are becoming more service-oriented rather than product oriented (ASID Sound, 1996). Businesses are popping up all over the place, offering services that were previously unheard of or unnecessary. Many of these services provide consulting or design relating to new technology. There are also a number of new services providing consultation for stress relief, organizational help, and time saving strategies. These services are now necessary due to increasingly fast-paced lifestyles in our society. These service-oriented companies are primarily white-collar facilities.

Not only has the increase in office workers placed an emphasis on office characteristics, but there are other factors contributing to this as well. Many companies are considering relocating or renovating offices spaces, integrating new office system furniture, or just rearranging office space because of various trends in the workplace. Downsizing is one current trend among white collar businesses. Company downsizing could be a result of financial difficulty, consolidation of tasks creating a need for fewer employees, or a desire to change the companies image to attract more or different clientele. Rather than downsizing, some companies are intentionally remaining small with few employees. The breakdown of hierarchical organizational structures is another trend taking place in the workplace today (ASID Sound, 1996). Strict management strategies are being implemented less and less. No longer are executives and managers separated from lower level employees by floors, solid walls or doors. Instead, it is becoming more common to see management offices easily accessible to all other employees. Another trend involves the work itself. Focus is turning toward life-long learning, higher order thinking, and individual decision making (ASID Sound, 1996; Becker & Steele, 1995). Workloads are increasing, but employees are having more say in their work schedules (ASID Sound, 1996). In many companies, work is also becoming a collaboration of the efforts

of several team members. As these trends begin to affect individual businesses, companies can alter the design and layout of office spaces to accommodate them.

Several changes in the business environment are also creating a need for change in office design. Companies are experiencing stronger competition and declining productivity. These changes make it more important than ever to create an efficient work environment. Changes are also occurring among the workforce. The workforce is becoming more diverse based on age, gender, ethnicity, and household composition (Becker et. al., 1995). An effective office plan would need to accommodate these various types of workers. The majority of changes occurring in businesses are a result of new technology. Technology is changing communications, the structure of the workday, space requirements, the complexity of office tasks, and many other aspects of white-collar businesses. To facilitate these changes and to allow them to occur smoothly, businesses can incorporate effective office design strategies.

One change that is occurring in some businesses and hopefully will occur in others is the view of the office as a corporate asset. An effective office environment can not only increase productivity and improve work quality, but it can also be used to attract potential employees and clients.

Productivity

Before a business can begin to think of their office space as a corporate asset, the benefits of a well planned office need to be closely examined. Since productivity is one of the primary concerns of businesses today, this is an issue that need to be discussed in depth. Productivity involves completing the highest volume of work in the shortest period of time. For the purposes of this discussion, the completion of high quality work will also be included in the definition of productivity. Since a productive environment requires productive employees, it is necessary to discuss the average American worker. If typical white collar workers are not concerned with the quality and efficiency of their work, the work environment will have little impact on productivity. However, a 1980 Gallop Study for the United States Chamber of Commerce revealed that “an overwhelming 88 percent of all working Americans feel that it is personally

important to them to work hard and do their best on the job” (Shumake,1992). Workers find it personally satisfying to complete high quality work in an efficient manner. An effective workspace will only make it easier for employees to accomplish satisfying work.

Studies have been conducted examining what executives and design professionals believe about the impact of office design on productivity. A survey concerning this issue was distributed to over 300 corporate and government executives, design professionals, and product manufacturers attending the 1996 National Summit on Building Performance (ASID, 1997). The majority of attendees agreed that a high-quality office environment can increase employee productivity by 10 to 20 percent (ASID, 1997). ASID conducted their own qualitative research survey involving 200 business decision makers including CEOs, presidents, COOs, CFOs, and facility managers. Half of these decision makers were from the 1,000 largest corporations in the country, while the other half were from growing, small to medium sized firms. Telephone interviews with respondents revealed that 90 percent believed that an improved office design can increase productivity. In fact, respondents rated an improved office design as one of the top methods of boosting productivity (ASID, 1997).

Not only are companies anticipating increased productivity through a high quality office space, but many companies are already experiencing the results of an improved design. After the Bank of Boston renovated their office space they were able to complete the same amount of work in 30 percent less space with 25 percent fewer employees. These savings allowed the renovation to pay for itself in less than two years. Another benefit of the project is the attractive showcase that it created which drew new clients to the bank. The Amoco Corporation in Denver experienced impressive results when they altered their office space to promote team work. This corporation was able to complete the same tasks in 44 percent less space. They also experienced a 25 percent decrease in project turnover time, an 80 percent decrease in duplicated files, and employees were able to spend 75 percent less time in formal meetings. An insurance company in Detroit made similar changes in their office space and experienced even more staggering results. The company reported a 137 percent decrease in time spent processing client

paperwork, 9 percent less errors, and a 1.6 percent absenteeism rate as opposed to the previous 4.4 percent rate (ASID, 1997). These case studies reveal that researching workspace characteristics and their effects is worthwhile and can have far-reaching effects.

Employee Satisfaction

Employee job satisfaction is related to productivity and is also a concern of companies today. A dissatisfactory work environment can lead to high absenteeism rates, high turnover rates, and poor work performance. Factors contributing to job satisfaction include the work itself, responsibility or autonomy, chance for advancement, salary or wages, supervision, relationships with fellow employees, job security, company policies, and the physical environment (Sundstrom, 1986). Although the physical work environment is only one component of job satisfaction, studies have revealed that there is a correlation between the two (Sundstrom, 1986). If an employee finds the physical work environment to be unpleasant, that employee is going to, whether consciously or unconsciously, avoid or withdraw from the environment. This could mean taking extra long breaks and lunches, calling in sick more often, or quitting altogether. This can be very costly for a company. Unplanned absences cost the average company between \$247 and \$534 per employee each year (Greenburg, 1995). When considering the number of workers employed by a company, these figures can really add up. This is especially true if many employees are “calling in” more often than the average. High turnover rates as a result of dissatisfaction with the work environment can cost companies valuable time. When an employee quits, the company may not have a new employee ready to fill the position. While the company is seeking a new employee, work may be left undone or other employees may be working overtime to complete the work. Once the position is filled, employees will have to take time away from their own tasks to train the new employee. Not only that, but the new worker will likely start out working at a slower rate than the previous employee. Work performance can also suffer as a result of job dissatisfaction. Although studies have established a correlation between work performance and job satisfaction, studies have not determined whether job satisfaction affects work performance or whether work performance

affects job satisfaction (Greenburg, 1995). Either way, work performance and job satisfaction can be improved by an effective office environment.

Summary

The changes and trends occurring in the white-collar world have placed an emphasis on productivity and employee satisfaction among businesses. Business and design professionals agree that an improved office design can positively affect productivity and worker satisfaction. Businesses are realizing that the office can be considered a corporate asset, attracting clients, employees, and overall increasing profitability

Objectives of Study

As established above, a correlation exists between office characteristics and employee productivity and satisfaction. The purpose of this study is to determine which characteristics positively impact these issues. Specific focus will be placed on the effects of privacy, enclosures, and accessibility in the workplace.

Review of Literature

The studies mentioned above highlight the need for continued research in the area of office environments. However, several other studies worthy of additional discussion have been conducted regarding privacy, partitions, and accessibility.

Privacy

Before a discussion can begin about privacy in the workplace, a background of the behavioral theories of privacy as related to the environment needs to be laid out. A paper written by John Archea explains various theories, models, and implications of privacy and how these are affected by the environment (Archea, 1977).

Several studies have been conducted by Eric Sundstrom to determine how privacy is related to job satisfaction and performance. One study involved 154 office workers with various job titles. The office workers were distributed a questionnaire asking questions about privacy and satisfaction (Sundstrom, Town, Brown, Forman & McGee, 1982). Another study was conducted among 150 administrators to assess the determinants of privacy and how privacy

affects job satisfaction (Sundstrom, Burt & Kamp, 1980). Two other studies tested the same hypothesis that an enclosed space determined a worker's perceived privacy and that privacy positively impacts job satisfaction (Sundstrom et. al. 1980). All studies revealed a correlation between privacy and job satisfaction.

Much of the research agreed that privacy in the workplace is actually the perceived degree of control the worker has in his/her environment. One study examined how visual layout, noise level, communication facility, and job satisfaction were affected by perceived control (McCarrey, Peterson, Edwards & Kulmiz, 1974). The study revealed that each of these workspace characteristics impacted an employee's perceived control in the workspace.

Several papers were used in the discussion of privacy that outlined privacy theories, studies, and the privacy controversy: enclosed office versus open office plan (Goodrich, 1982; Herman Miller, 1996; Sundstrom, 1996; Wineman, 1982). One of these papers included an informal study of workers in large office towers (Goodrich, 1982).

Enclosures

Many of the studies examining privacy issues in the workplace identified the number of enclosures as a determinant of privacy (Sundstrom et. al., 1980; Sundstrom et. al., 1982; Sundstrom, 1986). However, two studies specifically discussed employee reactions to the number of enclosures in a workspace (Oldham & Fried, 1987; Oldham, 1988). The first study consisted of a questionnaire distributed to 114 clerical workers from 19 offices in a university (Oldham et. al., 1987). The 109 respondents answered questions about satisfaction with the work environment and questions about various workspace characteristics including number of enclosures. The results were analyzed to determine what correlations existed (Oldham et. al., 1987). The combination of all the workspace characteristics addressed in the survey accounted for 31 percent of variance in work satisfaction. In the second study conducted by Greg Oldham, the affects of changes in the number of partitions on employee reactions were examined (1988). Two questionnaires were distributed among employees in three different offices in an insurance company. The two questionnaires were distributed at two different times, 6 months apart. The

questions regarded privacy, satisfaction, performance, and crowding. The employees in the first office were the control group: they experienced no significant design changes during the six months. The second office experienced changes in spatial density during the six months, and the third office experienced changes in the number of partitions in their office. The results of the two questionnaires were measured against each other to determine how the changes affected employee reactions (1988). Employee satisfaction improved among employees who moved to an office with more partitions.

Accessibility

Much of the literature in this field argued that an office could give employees privacy or it could allow them accessibility to co-workers, supervisors, and resources, but an office could not provide both. Accessibility is often referred to in the literature as social interaction or communication. The word accessibility is more appropriate here because it encompasses more than interaction with fellow workers. An accessible workspace promotes effective interaction with employees, supervisors, and resources. Resources could include technology such as the copy machine or it could include print resources such as books and manuals.

Much of the discussion about accessibility was included with literature on privacy (Goodrich, 1982; Sundstrom et. al., 1980; Sundstrom, 1986). However, research was found focusing on the importance of accessibility (ASID, 1997; Becker & Steele, 1995; Herman Miller, 1990). This literature focused on such things as teamwork, the breakdown of hierarchies in the workplace, and the removal of physical barriers.

Research Method

A study was designed and conducted by the author in order to contribute to the research already done in the field of office design and to learn more about the specific issues discussed in this paper. The research tool in this study consisted of a thirty-eight item questionnaire. This questionnaire included basic demographic questions such as gender and age, ten questions measuring satisfaction, and questions regarding a variety of workspace characteristics. The sample of 206 people were chosen using systematic sampling. Every fifteenth name was chosen

from the Faculty and Staff section of the Ball State University 1997-1998 Directory. Since all full time employees are listed in this directory, the sample included employees from a wide range of jobs. Of the 206 questionnaires distributed, 103 were returned. This is a return rate of 50 percent. The questionnaires were distributed through the Ball State campus mail. Employees were given one week to return the completed survey in the same campus mail envelope.

In addition to frequencies and percentages, the results of the survey were analyzed for statistical correlations between workspace characteristics and employee satisfaction. The ten question satisfaction scale resulted in a .92 value of Cronbach's alpha, indicating that this was a reliable scale to measure satisfaction among workers in various workspace settings.

There were a few limitations with this study. In an educational setting, workers experience different needs than in typical offices. This paper attempts to show that sufficient privacy, for most tasks, can be gained through partitions with several spaces allotted for confidential tasks and conversations. Although this can apply to most office tasks, it does not apply to instructors and counselors. Since 23 percent of respondents are instructors or professors, the results were not accurate for typical job tasks. Another limitation with this study is the fact that approximately 67 percent of respondents had separate offices or a reception area, though the questions were mainly geared towards people who shared an office space. The study would have been more effective if the sample had included the same number of employees from each job type and the same number of employees with each office type.

Findings

The following findings regarding office environments are the combination of results from previous studies, the study conducted by the author, and literature on the issues discussed in this paper: privacy, number of enclosures, and accessibility in the workplace.

Privacy

Literature concerning physical environments consistently agree that privacy is based on control. Privacy is the control over incoming stimulation and social contact and the control over incoming and outgoing information (McCarrey et. al., 1974; Sundstrom et. al., 1982). In many

situations it is not the actual control over information that constitutes a person's sense of privacy, but the perceived control (Goodrich, 1982; McCarrey et. al., 1974). A worker's perceived control over information is what affects workplace satisfaction. An environment that provides actual control may not be effective in creating satisfaction. Results from a study on privacy revealed that employees working in the same open office can experience differing levels of perceived control. A number of employees felt they had no control over transactions with the environment due to too much noise and too many distractions. Other employees felt they had adequate control over incoming and outgoing information. These employees felt that this control led to greater solidarity, improved contact, and greater job satisfaction (McCarrey et. al., 1974). These results indicate that employees may experience different levels of perceived control. This could be due to job type, age, or gender (Goodrich, 1982).

Although control over information can lead to employee satisfaction, this can be counterproductive in some situations. An employee entering a fellow employee's enclosed office is aware of who is in control over any information transactions. This may negatively affect communication between the two employees if the visiting employee is not free to express himself effectively. A balance must be found between too much control and not enough control. The appropriate amount of control a worker needs in an environment cannot be determined without examining the various types of privacy and how they relate to the physical environment and employee satisfaction.

Three types of privacy have been identified: speech/conversational privacy, acoustical privacy, and visual privacy (Sundstrom et. al., 1986). The first type of privacy, speech, is the most important. If a person has sufficient speech privacy, they are unable to clearly hear conversations going on around them. Conversations, due to the information and meanings they contain, are more distracting than background noise and visual distractions (Wineman, 1982).

Acoustical privacy occurs when a person is unable to hear most noises, along with conversations. This type of privacy may create an insufficient amount of perceived control. If an employee works in an enclosed office that offers acoustical privacy, they will not be able to

easily anticipate intrusions. A co-worker suddenly bursting into a employee's workspace could be viewed as a greater loss of perceived privacy if the employee has a fully enclosed workspace. If the employee worked in a space that didn't offer complete acoustical privacy, he/she would be able to see or hear a co-worker before they entered the space. Acoustical privacy can actually be distracting. Loud, unpredictable sounds will attract more attention in a silent environment. Without background noise, employee arousal is difficult to maintain (Wineman, 1982). In fact, too much acoustical privacy can result in poor work performance (Wineman, 1982).

The third type of privacy, visual, is made up of two components: visual access and visual exposure (Archea, 1977). Visual access is an employee's ability to see the actions and behaviors of fellow workers. According to John Archea in his studies of the behavioral theories of privacy, visual access provides a mean to discern acceptable behaviors by viewing the behaviors of others (1977). In an office setting, visual access of busy, working employees can motivate a worker to complete his own work (Wineman, 1982). A lack of visual access can cause monotony, boredom, and ineffective communication which can have a negative affect on performance (Wineman, 1982).

The exposure aspect of visual privacy involves a person's accessibility to the view of others. According to the self-presentation theory, a person will behave appropriately when they feel they are exposed to the view of others (Sundstrom, 1986). This means that employees may be more likely to work hard when they think that others may be watching them. Although some visual exposure may be beneficial in a work setting, too much can have negative effects. An employee who feels that they are under constant surveillance may experience discomfort which can lead to stress (Sundstrom, 1986). Among respondents in the Ball State study, those employees who did not sit next to or directly in front of other employees expressed a greater level of satisfaction with their environment ($t(78) = 2.76, p=.007$). This could be because those employees do not feel that they are constantly being watched. An effective office environment could be arranged to prevent visual exposure when employees are working at their own

workstations. At the same time, the environment can promote exposure by allowing employees visual access by making minor adjustments such as standing up or moving a chair.

A number of other factors can affect the amount of perceived privacy an employee experiences. The number of employees working in a room can play a role in privacy levels. If there are only a few people in a room, the actions of one employee are more likely to stand out and attract attention, decreasing the level of perceived privacy (Goodrich, 1982). Among workers in a large office tower, a lack of a boundary between the inside and outside of a personal workspace decreased perceived privacy (Goodrich, 1982). Employees felt violated when fellow workers walked up from behind and approached their desks. When boundaries or lines of territory exist, workers do not feel free to approach co-workers in this manner. Employees also felt more comfortable when there was only one entrance to their workspace (Goodrich, 1982). This prevents co-workers from “sneaking up” on employees. The amount of perceived privacy an employee desires may actually be based on the amount of status they desire (Becker & Steele, 1995). An enclosed, private office has almost always been associated with status in the company. This may be one reason that privacy is desired by so many employees. However, an enclosed office doesn’t necessarily offer privacy. Outside noises are usually still audible and may be more distracting because they are more unusual (Herman Miller, 1990). As mentioned earlier, an employee in an enclosed office bears the risk of sudden intrusions. There are other negative aspects of using an enclosed office as a status symbol. Enclosed offices take up a great deal of space. This space could be taken from more important spaces that clients see such as conference rooms and reception areas. Also, a great deal of disruption could result each time a person is promoted. Walls may even have to be torn down and rebuilt to ensure that the recently promoted employee receives the exact amount of space allotted for that job title.

Although different levels of privacy have different benefits, studies agree that perceived privacy is important to employees (Herman Miller, 1990). Of surveyed Ball State employees, 70 percent revealed that privacy is important to their work. A lack of privacy was one of the most commonly stated reasons for dissatisfaction with work environments among the

same respondents. Eric Sundstrom's study of clerical workers in an open office with few partitions found that employees expressed greater levels of satisfaction in spaces considered relatively private (1980). Half of these respondents agreed that more partitions would improve their office environment. A similar study conducted by the same author revealed a correlate between job satisfaction and privacy ($r=.21$) among employees (1982).

An effective office environment is created to provide varying degrees of privacy to accommodate the different levels of perceived privacy necessary to result in employee satisfaction.

Number of Enclosures

The number of enclosures surrounding an individual workspace were identified as a determinant of privacy in Eric Sundstrom's studies. In the study among administrative staff, work areas with partitions received higher privacy ratings (1980). A positive correlation was found between the number of partitions and privacy in the study conducted among clerical and administrative workers (1980). Privacy and enclosures are often associated with each other because enclosures can provide all three types of privacy: conversational, acoustical, and visual. Since privacy levels have been shown to positively affect employee satisfaction, the number of partitions can also improve employee satisfaction. Since assuming that the above statement is true is not an accurate method of research, the correlation between the number of enclosures and employee satisfaction have also been studied.

The results of the Ball State study identified a statistically significant positive correlation between the number of enclosed sides in a workspace and employee satisfaction ($n=.43$, $p<.001$). A study conducted by Greg Oldham revealed a significant correlation between number of enclosures and employee withdrawal during breaks (1987). An employee who is satisfied with his environment is more likely to spend breaks at his/her workspace. Although some correlation between enclosures and satisfaction were found in this study, a later study by the same author found more significant results (1988). This study examined how satisfaction was

affected by adding additional partitions to a work setting. Satisfaction was found to improve (1988).

Studies clearly indicate that the number of enclosures in a workspace can positively impact employee satisfaction. There may be some argument as to whether an enclosure can be a partition or if it has to be a wall. The above mentioned studies specifically explained to respondents that an enclosure could be either a wall or partition. Studies have shown that partitions can be just as effective as full height walls in creating privacy (Herman Miller, 1990).

Accessibility

Accessibility in the workplace is the breakdown of physical barriers to facilitate communication and the use of resources. An accessible workspace is typically a large open room with several workstations and several areas for employees to get together on projects. Most arguments about office design center on the issue of accessibility among employees. Some experts believe that accessibility limits privacy (Sundstrom et. al. 1986). Others believe that accessibility among employees is more important than privacy (Becker & Steele, 1995). This paper asserts that a balance can be achieved between privacy and accessibility. However, both sides of the argument need to be addressed.

Those experts who place more importance on privacy feel that it can only be achieved through the use of enclosed offices. The overstimulation theory explains why this view is held. This theory states that too much accessibility can create excessive stimulation or an information overload (Oldham, 1988). This can negatively impact work performance and satisfaction. An effective environment can prevent overstimulation without eliminating the benefits of an accessible workspace. This type of workplace can improve productivity by providing easy access to workers, supervisors, resources, and equipment. Among Ball State survey respondents, 25 percent feel that close access to other workers increases productivity through communication and feedback. In the ASID study involving 200 business decision makers, 68 percent of the respondents who made changes in their office designs expressed an increase in productivity due to improved accessibility to people, information, and equipment (ASID, 1997). The same study

revealed that 51 percent of respondents feel that improved access to team members increases productivity (ASID, 1997). A study among employees working in a large office tower revealed that accessibility promoted desired relationships between all workers, managers or employees (Goodrich, 1982). This environment also supported appropriate information transactions, improved morale, and promoted group involvement (Goodrich, 1982). The removal of the physical barriers to information flow can keep employees more informed about the company (Becker & Steele, 1995). Employees will feel less hesitant about communicating with managers about current news, problems, and questions. Communication among all employees can be improved in an environment that allows information to flow easily and informally (ASID, 1997).

The primary benefit of an accessible workspace is that it promotes teamwork. Employees in close proximity to each other will easily be able to collaborate in decision-making, problem solving, and in the completion of other tasks. Most problems faced by a company require the expertise of people from a variety of skills, backgrounds, and experiences (Becker & Steele, 1995). Problems can be solved and decisions can be made more effectively and efficiently when a variety of individuals can work together.

Application

Now that the affects of privacy, enclosures, and accessibility on employee productivity and satisfaction have been identified, how these findings can be implemented in the office needs to be discussed. An effective office design needs to provide employees with sufficient perceived privacy to avoid an information overload. At the same time, too much privacy needs to be avoided since it can lead to isolation, boredom, and poor work performance. Since privacy is directly related to the number of enclosures in a workspace, adequate partitions need to be included in an office space. Accessibility can improve productivity and should also be a consideration in an effective office environment.

Privacy

Privacy sequencing is one method of creating privacy without eliminating accessibility. This involves providing several different spaces with varying levels of privacy (Herman Miller,

1990). A space with minimal privacy can be created for everyday tasks and informal meetings, a moderately private space for more formal meetings and intensive tasks, and a highly private space for confidential meetings and tasks. Another idea is to arrange workstations so that employees cannot easily see one another from their individual spaces. This cuts down on visual exposure and access without creating excessive privacy. Employees would only have to move their chairs, turn around, or stand up to receive appropriate behavioral cues from other workers. This would also keep employees from feeling watched since co-workers will not be easily able to look at them. Arranging workstations in this manner will keep visual distractions to a minimum and allow employees to focus on their own work.

Enclosures

Since studies have shown that partitions can be as effective as floor-to-ceiling walls, they can be used in creating an improved office space. Partitions surrounding workspaces should be greater than seated eye level height to prevent excessive visual stimulation. Partitions can be made from sound absorbing panels to create moderate acoustic privacy. Another idea for an effective office is to use partitions to create boundaries around workstations, providing perceived privacy for the employee.

Accessibility

Accessibility can be improved by centrally locating resources and equipment so that they will be easily reachable to employees from all job types. Most employees will have to use the copier, fax machine, or other equipment at some point. If this equipment is easily reachable, travel time can be saved. Not only do resources need to be accessible, but so do people. Supervisors and managers can be located near other employees. Close proximity to supervisors may make them more approachable to their employees. Employees can be placed relatively close to one another to facilitate communication. It is especially important to group together employees who may collaborate on a project.

As revealed in the study mentioned in the Introduction, these types of design changes have been shown to increase productivity, decrease space needs, improve employee satisfaction,

and attract clients and employees. These are the type of things which can serve to make office design a corporate asset.

Conclusion

Limitations

This paper focused on the affects of privacy, enclosures, and accessibility in the workplace. These are just a few workspace characteristics that may impact employee productivity and satisfaction. Other characteristics such as lighting, density, decor, and ergonomics were not discussed due to the broad nature of these topics. The research on productivity mentioned in this paper was somewhat limited due to difficulty in measuring productivity in the office.

Future Research

In the future, an effective method of research needs to be conducted to measure employee productivity in the office. Since many of the ideas mentioned in this paper are relatively new, few postoccupancy studies have been conducted to measure the affects of these ideas. More studies need to be conducted in offices where these design ideas have been implemented. As stated in the Introduction, it has not been determined whether task performance is affected by job satisfaction or if job satisfaction is affected by task performance. Future research needs to be conducted on this issue.

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